

REMARKS

The present Amendment amends claims 1, 8 and 15 and leaves claims 2-7 and 9-14 unchanged. Therefore, the present application has pending claims 1-15.

Amendments were made to the specification to correct minor errors grammatical and editorial in nature discovered upon review. Entry of these amendments is respectfully requested.

In paragraph 2 of the Office Action the Examiner objected to an informality on the line 5 of claim 1. Amendments were made to claim 1 so as to correct the informality noted by the Examiner. Therefore, Applicants submit that this objection is overcome and should be withdrawn.

Proposed Drawing Correction is being filed on even date so as to add legends to the elements illustrated in Fig. 5. Entry of the Proposed Drawing Correction is respectfully requested.

Claims 1-15 stand rejected under 35 USC §102(e) as being anticipated by Aruga (U.S. Patent No. 6,542,954). This rejection is traversed for the following reasons. Applicants submit that the features of the present invention as now more clearly recited in claims 1-15 are not taught or suggested by Aruga whether taken individually or in combination with any of the other references of record. Therefore, Applicants respectfully request the Examiner to reconsider and withdraw this rejection.

Amendments were made to each of independent claims 1, 8 and 15 so as to more clearly describe features of the present invention. Particularly, amendments were made to these claims so as to more clearly describe that

the present invention is directed to a system having first and second storage system and a switch apparatus and the switch apparatus itself.

According to the present invention the system includes a first storage system for storing data, wherein in a first situation a host computer performs read and write operations on the data stored in the first storage system by using a first protocol and a first identifier of the first storage system and a switch apparatus connectable to the first storage system.

Further, according to the present invention the first storage system includes a port connectable to the switch apparatus and the switch apparatus includes a first port connectable to the first storage system, a second port connectable to the host computer, a third port connectable to a second storage system for storing data and a plurality of processing apparatuses connectable to the first, second and third ports.

Still further, according to the present invention in a second situation the host computer is connected to the switch apparatus and the switch apparatus sets a relationship between the first identifier of the first storage system and a second identifier of the second storage system. The processing apparatuses convert the first protocol, which is used in a connection between the port of the first storage system and the first port of the switch apparatus and which is used in a connection between the host computer and the second port of the switch apparatus, to a second protocol which is used in a connection between the second storage system and third port of the switch apparatus.

Still further yet, according to the present invention in a third situation the host computer performs read and write operations on the data by using the first protocol and the first identifier and the switch apparatus controls

converting the first protocol to the second protocol to perform read and write operations on the data on the second storage system, when the switch apparatus transfers data from the first storage system to the second storage system. In the present invention the system changes between the first, second and third situations as needed.

The above described features of the present invention as now more clearly recited in the claims are not taught or suggested by any of the references of record whether taken individually or in combination with each other. Particularly, the above described features of the present invention are as now more clearly recited in the claims are not taught or suggested by Aruga.

It should be noted that the invention as set forth in Aruga was assigned to the same Assignee of the present application and should the Examiner seek to change the rejection of the claims based on Aruga from 35 USC §102(e) to 35 USC §103(a) then such rejection would appear to be inappropriate in accordance with 35 USC §103(c).

Aruga teaches the use of a protocol converter between switches in a fibre channel switch circuit and disk drive units for converting a protocol to enable one to one connectivity between controllers and disk drive units. Particularly, Aruga teaches, for example, in Fig. 7 thereof the internal configuration of a disk array system. It should be noted that the protocol converters are used for converting a protocol used between a disk drive unit and a controller device so as to allow the disk drive unit and the controlling device to be connected in a one to one configuration.

However, at no point is there any teaching or suggestion in Aruga of the conversion between different protocols, namely a first protocol and a second protocol as recited in the claims. The present invention by performing conversions between protocols a host computer is allowed to access a different storage system using a protocol different from a protocol which may be currently used by the host computer to access its current storage system. No such conversion between first and second protocols is taught by Aruga.

Further, there is no teaching or suggestion in Aruga wherein the two different protocols are used in a manner appropriate to the situation in which the reading and writing of data by the host computer is to occur. According to the present invention different protocols are used depending on whether the host computer is attempting access the first (current) storage system or a second (another) storage system or when data is being migrated between the first storage system and the second storage as in the present invention. Applicants fail to find any teaching whatsoever in Aruga of the above described features of the present invention.

Thus, Aruga fails to teach or suggest a system including a first storage system for storing data wherein in a first situation a host computer performs read and write operations on the data stored in the first storage system using a first protocol and a first identifier of the first storage system as recited in the claims.

Further, Aruga fails to teach or suggest that in a second situation the host computer is connected to the switch apparatus and the switch apparatus sets a relationship between the first identifier of the first storage system and a second identifier of the second storage system as recited in the claims.

Still further, Aruga fails to teach or suggest that the plurality of processing apparatuses of the switch apparatus convert the first protocol which is used in a connection between the port of the first storage system and first port of the switch apparatus and which is used in a second connection between the host computer and the second port of the switch apparatus to a second protocol which is used in a connection between the second storage system and the third port of the switch apparatus as recited in the claims.

Still further yet, Aruga fails to teach or suggest that in a third situation the host computer performs read and write operations on the data by using the first protocol and the first identifier and the switch apparatus controls converting the first protocol to the second protocol to perform read and write operations on data of the second storage system, when the switch apparatus transfers data from the first storage system to the second storage system and the system changes between first, second and third situations as needed as recited in the claims.

Therefore, Aruga fails to teach or suggest the features of the present invention as now more clearly recited in the claims. Accordingly, reconsideration and withdrawal of the 35 USC §102(e) rejection of claims 1-15 as being anticipated by Aruga is respectfully requested.

The remaining references of record have been studied. Applicants submit that they do not supply any of the deficiencies noted above with respect to the reference utilized in the rejection of claims 1-15.

In view of the foregoing amendments and remarks, applicants submit that claims 1-15 are in condition for allowance. Accordingly, early allowance of claims 1-15 is respectfully requested.

To the extent necessary, the applicants petition for an extension of time under 37 CFR 1.136. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, or credit any overpayment of fees, to the deposit account of MATTINGLY, STANGER, MALUR & BRUNDIDGE, P.C., Deposit Account No. 50-1417 (520.39602CX1).

Respectfully submitted,

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